ABSTRACT OF THE INVENTION

A peptide of relative molecular mass less than 6500 comprising at least ten consecutive amino acid residues surrounding the phenylalanine (508), or at least ten consecutive residues including a portion of the region between residues (508 and 551), in the polypeptide sequence of human cystic fibrosis transmembrane regulator (CFTR), or a variant or precursor thereof. A peptide as defined above having between 12 and 50 amino acid residues. Methods of treating cystic fibrosis are also disclosed. A method of classifying a disease state associated with epithelial cell dysfunction in a patient is disclosed. The method includes obtaining a suitable epithelial cell sample from the patient and determining for one or more of the following whether the measured parameter is altered compared to a control epithelial cell, the measured parameters being: (i) nucleoside diphosphate kinase (NDPK) function, (ii) phosphorylation of annexin, (iii) phosphorylation of other membrane proteins, and (iv) ATPase activity.